




Expression of interest

Contact details

Country	TURKEY
Name of the organization	SmartICT and Cerebrum Technologies
Name of the contact	Bülent ÇELİK
Phone	+905352580391
Email	abcelik@gmail.com

Short description of the organisation

Please follow :

EUROPASS:

<https://europa.eu/europass/eportfolio/api/eprofile/shared-profile/31b87dd7-9e2a-4b26-86fc-51d745d2fb72?view=html>

ORCID :

<https://orcid.org/0000-0003-1218-9309>

Table 1: Short Description and Functional Domains

Having.

- MSc-Master of Science on Computer Science
- MSc-Master of Science on MBA
- EU Research&Innovation Projects Registered Expert
- 15+ year in governmental org. Software Development
- 4+ year in governmental org. IT Projects Management
- ITIL and PRINCE2 and 25+ Certificate on Software Development and IT Project Management
- ♥ pure java, React.js, Java.js & JavaEE,
- dealing with Horizon Europe R&I Climate-Neutral and Smart Cities,Digital, Industry and Space, Climate, Energy and Mobility projects, interoperability standards,
- experienced in Software Development and Management and building projects on Artificial Intelligence, Machine Learning, Artificial Neural Networks-ANN, Deep Learning, AI/ML-DL by feed-forward& error back-propagation method of learning for multilayered perceptron networks, Augmented Reality,Decentralized and Distrubuted Ledger Technology - DLT and Distrubuted Finite State Machine-DFSM Solutions (Blockchain) and WEB3/Decentralized Applications-DAAP's.



Specific skills related to the project

We have specific skills and competence in relation with “**HORIZON-CL5-2024-D6-01-06: Optimising multimodal network and traffic management, harnessing data from infrastructures, mobility of passengers and freight transport**” topic.

May contribute to the following expected **outcomes**.

- Optimised multimodal transport network and traffic management, for efficient door-to-door mobility of passengers and freight (from producers to last mile deliveries).
- Validated solutions for effective and secure data exchange across all modes of transport, for dynamic and responsive multimodal network and traffic management.
- Validated systems for accurate detection and resolution of network bottlenecks, improving safety, security, resilience and overall performance of the transport network, enabling pro-active mobility management.
- New tools and services for optimising mobility of passengers and freight, in cities and other areas, cutting traffic jams and improving multimodal traffic flows. The proposed solutions should demonstrate (e.g., through simulations, pilots) the potential to reduce by at least 30% the average travel delay, as well as the overall transport energy consumption and emissions of greenhouse gases and other pollutants in the network.
- Workable governance arrangements for multimodal transport network and traffic management, in view of further supporting regulatory and policy actions.
- Some of my expertise on IT and CLUSTER 4 (Digital, Industry and Space) and CLUSTER 5 (Climate, Energy and Mobility) areas are ;
 - Agile software development [Software design validation and maintenance]
 - Artificial Intelligence & Decision support [Technologies-Components]
 - Artificial intelligence, intelligent systems, multi agent systems [Computer sciences, information science and bioinformatics]
 - Blockchain and Distributed Ledger Technology (DLT) [Technologies and Use Cases Dimension]
 - Component-Based Software Development [Software design validation and maintenance]
 - Data mining [Technologies-Components]
 - Data visualization [Web and information systems, database systems, information retrieval and digital libraries, data fusion]
 - Digital Services and Platforms [Sectorial Dimensions]
 - Electronic commerce (eCommerce) [Digital services]
 - Incident analysis, communication, documentation, forecasting (intelligence based), response, and reporting [Incident Handling and Digital Forensics]



- Integrated systems testing & evaluation [Systems Engineering and Design Management]
- Interoperability [Systems Engineering and Design Management]
- Machine learning, statistical data processing and applications using signal processing (e.g. speech, image, video) [Robotics and automatic control]
- Model Driven Software Development [Software design validation and maintenance]
- Modelling, Databases and Risk Analysis [Space Debris]
- Optimization, Planning & Decision Support systems [Crisis Operations / Management - C3I]
- Project management [Renewable electricity]
- Project management and coordination [Business management]
- Technology evaluation [Technology management]
- Web and information systems, database systems, information retrieval and digital libraries, data fusion [Media and socio-cultural communication]

What we can offer to other delegates:

Our contribution can be work packages such as technology development, concept development, demonstration or design in the following areas.

- Traffic and energy optimization algorithms based on the Artificial Intelligence and Machine Learning – AI-ML
- Interoperability standards and information exchange models in accordance with [Digital Europe Programme](#) and Minimal Interoperability Mechanisms - MIMS specified in the [European Interoperability Framework](#) and [European Interoperability Reference Architecture](#)
- Mobile and multi-platform centralized and decentralized (Blockchain) applications in line with [European Blockchain Services Infrastructure \(EBSI\)](#).
- Data Analytical and Decision Support functionalities.
- Data Modelling and advanced database query functionalities.
- Data Integration and extracting semantically complete information.
- The most featured skills come to forth are artificial intelligence and behavioral learning algorithms, robotic optimization techniques, Remote & Collaboration and decentralized planning and gaming optimization.
- Appropriate use of analytical technologies and read-outs.
- Appropriate sampling methods and sample handling.
- Statistical information extraction from big data.
- Risk management strategies for the development process.
- Other ICT and IoT support
- Support by two expert people* listed below and development engineering manpower by company on the call topic.



- * **Name/Surname:** Bülent ÇELİK abcelik@gmail.com
- **registered expert as #EX2020D397766** in and further details can be confirmed by European Commission Expert Database.
 - have two **Master of Science - MoS**,
 - **Computer Science (CS)**
 - **Management of Business Administration (MBA)**
 - **certificated by ITIL and Prince2** also 20+ certificate of IT and Software Management.
 - **have engineered 15+** years on IT Software at governmental organization
 - **participated over 20+ large-scale IT projects** as a developer & manager.
 - **experienced on Software Development and Management** and building projects on Artificial Intelligence, Machine Learning, Deep Learning, AI/ML-DL, Augmented Reality, Object and Relational Modelling and Databases, Multilateral interoperability of software's, Robotics, On the fly GIS implementations, Standarts, Energy Integration, Decentralized Technology Solutions-DLT(Blockchain) and WEB3/Decentralized Applications-DAAP's Solutions, Distrubuted Finite State Machine-DFSM, Blockchain implementations for all use cases (DLT4ALL, DFSM4ALL) in the industry, Smart City Projects, Internet of Things-IoT and loves ❤️ java & React.js & JavaEE.
 - proposing projects for Horizon Europe Programme and Urban Europe spectrum in the context of Climate Neutral & Green-Deal.
 - some of my expertise on IT and CLUSTER 4 (Digital, Industry and Space) and CLUSTER 5(Climate, Energy and Mobility) areas are listed below.
 - Agile software development [Software design validation and maintenance]
 - Artificial Intelligence & Decision support [Technologies-Components]
 - Artificial intelligence [New technologies for Audio-Visual sector - Media]
 - Artificial intelligence, intelligent systems, multi agent systems [Computer sciences,
 - information science and bioinformatics]
 - Code reuse [Software design validation and maintenance]



- Component-Based Software Development [Software design validation and maintenance]
- Computing for servers, data centres [Advanced computing]
- Data mining [Technologies-Components]
- Data visualization [Web and information systems, database systems, information retrieval and digital libraries, data fusion]
- Digital Services and Platforms [Sectorial Dimensions]
- Electronic commerce (eCommerce) [Digital services]
- Incident analysis, communication, documentation, forecasting (intelligence based), response, and reporting [Incident Handling and Digital Forensics]
- Information systems [Technologies and Use Cases Dimension]
- Information technologies [Technologies-Components]
- Machine learning, statistical data processing and applications using signal processing (e.g., speech, image, video) [Robotics and automatic control]
- Metadata [Digital services]
- Model Driven Software Development [Software design validation and maintenance]
- Modelling, Databases and Risk Analysis [Space Debris]
- Project management and coordination [Business management]
- Web and information systems, database systems, information retrieval and digital libraries, data fusion [Media and socio-cultural communication]

What we would like to receive from other delegates:

- Experience and knowledge sharing about partnering and using European Research and Innovation funds and tenders.
- European Research and Innovation project management and consultation on following formal procedures in project life cycle.

Earlier work/experience on this subject:

- See Table-1.



Proposed activities for the project:

- Building a capability for modelling and gathering semantically complete information by **Harnessing Data from Infrastructures, Mobility of Passengers and Freight Transport data** in accordance with accepted European level standards and initiatives defined in the following article.
- Following the European standardization initiatives and hubs listed below.
 - EIT InnoEnergy- Accelerating sustainable energy innovations
 - European Blockchain Services Infrastructure (EBSI):
 - European Commission and the European Blockchain Partnership EBP (Endorsed Business Partner) HUB (EU Blockchain Hub).
 - Alliance for Internet of Things Innovation AIOTI <https://aioti.eu/>
 - Data, AI and Robotics DAIRO <http://www.bdva.eu/>
 - Energy Cities - <https://energy-cities.eu>
 - European Cities and Regions Networking for Innovative Transport Solutions POLIS <http://www.polisnetwork.eu/>
 - European Energy Research Alliance EERA <http://www.eera-set.eu/>
 - European Institute of Innovation & Technology / Digital EIT Digital <https://www.eitdigital.eu/>
 - European Institute of Innovation & Technology / InnoEnergy EIT InnoEnergy <https://www.innoenergy.com/>
 - European Institute of Innovation & Technology / Urban Mobility EIT Urban Mobility <https://www.eiturbanmobility.eu/>
 - European Robotics Association euRobotics <https://eu-robotics.net/>
 - European Solar Thermal Electricity Association ESTELA <http://www.estelasolar.org/>
 - The European Technology and Innovation Platform on Renewable Heating and Cooling RHC <https://www.rhc-platform.org/>
 - The European Technology Platform on Smart Systems Integration EPOSS <http://www.smart-systems-integration.org>
 - The AI Data Robotics Association ADRA <https://adr-association.eu/>
 - European Association for Artificial Intelligence EurAI <https://www.eurai.org/>
- Developing future-proof capability of optimization on traffic flow and suggesting alternative solutions in the state of multi-mode or single-mode path.
- Implementation or gaining ability on small scale building blocks. This may include, for example, know-how, innovative solutions, algorithms, proof of feasibility, new business models, policy recommendations, guidelines, prototypes, demonstrators, databases and datasets, trained researchers, new infrastructures, networks, etc.

References

Previous research project

Project acronym / starting date	Main objectives	Main activities	Role in the project
---------------------------------	-----------------	-----------------	---------------------

PRJ-1	Automatic Damage Detection System	<p>Detection of Pit, Skew and Hole on Vehicle Surface, Easy to Understand Visual Reporting, Behaviour Analysis of Vehicle Users, Time Saving with Fast Damage Locating, Precise Comparative Analysis, Application to All Vehicle Types, Damage - Plate Matching.</p> <p>Differentiation from the proposed project: Artificial Intelligence applicant project has no similarity rather than the name of technology AI</p>	
PRJ-5	Smart Parking Management System City	<p>Listing nearby parking lots, Observe parking occupancy rates, Accessing parking pricing information, Reservation, One-touch payments via the app, Observe all the movements defined on the plate,</p> <p>Differentiation from the proposed project: Artificial Intelligence applicant project has no similarity rather than the name of technology AI</p>	



Master Thesis in Computer Science	Master-Agent University International Computing Inst. Computer Science Thesis: Cost-Based Query Optimization In The Relational Databaseses Using Cost-Estimation By Linear Histogram Technique	Software Programming and Technology management	Technology developer
Project	Specification and Designing of Software Requirements		Requirement Management
Project	Data Modelling		Data Modelling
Project	Software Functions Management		Design Management
Project	Cyber Training and Exercise		Organization
Project	Medical and Logistics Information Systems Management		System Engineering
Project	Information Systems Software Development and Integration		Integration
Project	International Multilateral Interoperability Program Participation		Modelling
Project	Software Development and Management		Software Development
Project	ORACLE Database Management and Software Dvlp. (PL/SQL)		Database Management